Lloyd's Register

Rules and Regulations for the Classification of Ships, July 2013

Notice No. 2

Effective Date of Latest Amendments:

See page 1

Issue date: July 2013

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RULES AND REGULATIONS FOR THE CLASSIFICATION OF SHIPS, *July 2013*

Notice No. 2

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Ships, July 2013*. The amendments are effective on the dates shown:

Part	***Chapter***	***Section***	***Effective date***
1	2	2	Corrigendum
3	1	1, 8, 9	1 August 2013
4	2	8	Corrigendum
5	2	17	Corrigenda

It will be noted that the amendments also include corrigenda, which are effective from the date of this Notice.

The *Rules and Regulations for the Classification of Ships, July 2013* are to be read in conjunction with this Notice No. 2. The status of the Rules is now:

Rules for Ships	Effective date:	July 2013
Notice No. 1	Effective date:	1 July 2013
Notice No. 2	Effective date:	1 August 2013 & Corrigenda

Part 1, Chapter 2

Classification Regulations

CORRIGENDUM

■ *Section 2*
Character of classification and class notations

2.8 Descriptive notes

(*Part only shown*)
2.8.3 Where LR's ShipRight procedures for the following have been applied on a voluntary basis, then a descriptive note will, at the Owner's request, be entered in column 6 of the *Register Book*, preceded by the word **ShipRight** (*see also ShipRight Procedures Overview,* Pt 3, Ch 16 and Pt 5, Ch 21):

VECS	Vapour Emission Control System This notation will be assigned to a ship that has a vapour emission control system fitted which has been designed and constructed in accordance with the requirements of USCG 46, CFR 39 or the IMO Standards for Vapour Emission Control Systems (MSC Circular 585). ~~If a ship has been assigned the **ECO** notation then it will not be eligible for the **VECS** Descriptive Note. Instead, **VECS** will be referenced in the **ECO** notation, i.e., **ECO(VECS)**.~~

Part 3, Chapter 1

General

Effective date 1 August 2013

■ *Section 1*
Rule application

1.2 Exceptions

1.2.2 The requirements of 7.1 ~~and 8.3~~ are not applicable to Double Hull Oil Tankers or Bulk Carriers with a **CSR** notation, *see* Pt 1, Ch 2,2.3.

■ *Section 8*
Inspection~~,~~ and workmanship~~ and testing procedures~~

~~8.3 Testing procedures~~

~~*8.3.1* **Definitions**. For the purpose of these procedures the following definitions apply:~~

- ~~(a) **Protective coating** is the coating system applied to protect the structure from corrosion. This excludes the prefabrication primer.~~
- ~~(b) **Structural testing** is a hydrostatic test carried out to demonstrate the tightness of the tanks and the structural adequacy of the design. Where practical limitations prevail and hydrostatic testing is not feasible, hydropneumatic testing (*see* 8.3.1(e)), may be carried out instead.~~
- ~~(c) **Leak testing** is an air or other medium test carried out to demonstrate the tightness of the structure.~~

~~(d) **Hose testing** is carried out to demonstrate the tightness of structural items not subjected to hydrostatic or leak testing, and other components which contribute to the watertight or weathertight integrity of the hull.~~

~~(e) **Hydropneumatic testing** is a combination of hydrostatic and air testing, consisting of filling the tank with water and applying an additional air pressure. The conditions are to simulate, as far as practicable, the actual loading of the tank and in no case is the air pressure to be less than given in 8.3.4.~~

~~*8.3.2* **Application**. The testing requirements for gravity tanks including independent tanks of 5 m^3 or more in capacity, watertight and weathertight compartments, are listed in Table 1.8.1. Tests are to be carried out in the presence of the Surveyor at a stage sufficiently close to completion such that the strength and tightness are not subsequently impaired.~~

~~*8.3.3* **Structural testing**:~~

~~(a) Structural testing may be carried out afloat where testing using water is undesirable in dry dock or on the building berth. The testing afloat is to be carried out by separately filling each tank and cofferdam to the test head. For tankers and ore or oil ships (*see* 1.2.2), the testing afloat is to be carried out by separately filling each tank and cofferdam to the test head given in Table 1.8.1. With about half the number of tanks full, the bottom and lower side shell in the empty tanks is to be examined and the remainder of the bottom and lower side shell examined when the water is transferred to the remaining tanks.~~

~~(b) The attachment of fittings to oiltight surfaces is to be completed before tanks are structurally tested. Where it is intended to carry out structural tests after the protective coating has been applied, welds are generally to be leak tested prior to the coating application.~~

~~(c) For welds other than manual and automatic erection welds, manual fillet welds on tank boundaries and manual penetration welds, the leak test may be waived provided that careful visual inspection is carried out, to the satisfaction of the Surveyor, before the coating is applied. The cause of any discolouration or disturbance of the coating is to be ascertained, and any deficiencies repaired.~~

~~*8.3.4* **Leak testing**:~~

~~(a) This is carried out by applying an efficient indicating liquid (e.g., soapy water solution), to the weld or outfitting penetration being tested, while the tank or compartment is subject to an air pressure of at least 0,15 bar (0,15 kgf/cm^2).~~

~~(b) It is recommended that the air pressure be raised to 0,2 bar (0,2 kgf/cm^2) and kept at this level for about one hour to reach a stabilised state, with a minimum number of personnel in the vicinity, and then lowered to the test pressure prior to inspection. A U-tube filled with water to a height corresponding to the test pressure is to be fitted for verification and to avoid overpressure. The U-tube is to have a cross-section larger than that of the air supply pipe. In addition, the test pressure is to be verified by means of a pressure gauge, or alternative equivalent system.~~

~~(c) Leak testing is to be carried out, prior to the application of a protective coating, on all fillet welds and erection welds on tank boundaries, and on all outfitting penetrations. Automatic and Flux Core Arc Welding (FCAW) semi-automatic butt welds of the erection joints need not be tested, provided that careful visual inspections show continuous uniform weld profile shape, free from repairs, and the results of selected NDE testing show no significant defects.~~

~~(d) Selected locations of automatic erection welds and pre-erection manual or automatic welds may also be required to be tested before coating, at the discretion of the Surveyor, taking account of the quality control procedures of the shipyard. Where exempt from this requirement, leak testing may be carried out after the protective coating has been applied, provided that the welds have been carefully inspected to the satisfaction of the Surveyor.~~

~~*8.3.5* **Hose testing**. This is to be carried out at a maximum distance of 1,5 m with a hose pressure not less than 2,0 bar (2,0 kgf /cm^2). The nozzle diameter is not to be less than 12 mm. The jet is to be targeted directly onto the weld or seal being tested.~~

~~*8.3.6* **Hydropneumatic testing**. When this is performed, the safety precautions identified in 8.3.4 are to be followed.~~

~~*8.3.7* Equivalent proposals for testing will be considered.~~

~~*8.3.8* **Trial trip and operational tests**. The items listed in Table 1.8.3 are to be tested on completion of the installation or at sea trials~~.

~~**Table 1.8.1 Testing requirements** (*see continuation*)~~

Item to be tested	Testing procedure	Testing requirement
Double bottom tanks	Structural, *see* Note 1	The greater of: • head of water up to the top of the overflow • head of water up to the margin line • head of water representing the maximum pressure experienced in service
Combined double bottom and lower hopper side tanks	Structural, *see* Note 1	The greater of: • head of water representing the maximum pressure experienced in service • head of water up to the top of the overflow
Combined double bottom, lower hopper and topside tanks	Structural, *see* Note 1	The greater of: • head of water up to the top of the overflow • 2,4 m head of water above highest point of tank, *see* Note 4
Double side tanks	Structural, *see* Note 1	
Topside tanks	Structural, *see* Note 1	
Cofferdams	Structural, *see* Note 1	
Forepeak and aft peak used as tank, *see* Note 3	Structural	
Tank bulkheads	Structural, *see* Note 1	The greater of: • head of water up to the top of the overflow • 2,4 m head of water above the highest point of tank, *see* Note 4 • setting pressure of the safety valves, where relevant, *see* Note 10 • 2,0ρ m above the top of the tank, where ρ is the relative density of any intended cargo
Deep tanks	Structural, *see* Note 1	
Fuel oil bunkers	Structural, *see* Note 1	
Scupper and discharge pipes in way of tanks	Structural, *see* Note 1	
Cargo holds with trunks fitted	Structural, *see* Note 1	The greater of test heads given in Table 1.8.2
Water ballast holds in bulk carriers, *see* 1.2.2	Structural, *see* Note 1	The tank testing requirement is not to be less than the head up to the top of the hatch coaming, *see* Notes 11 and 12
Double plate rudders	Leak	
Steel hatch covers fitted to the cargo oil tanks and cargo holds of ships used for the alternate carriage of oil cargo and dry bulk cargo, *see* Note 6	Structural, *see* Note 1	The greater of: • 2,4 m head of water above the top of hatch cover • setting pressure of the safety valves, *see* Note 10
Watertight bulkheads, shaft tunnels, flats and recesses, etc.	Hose, *see* Note 2	*See* 8.3.5
Watertight doors (below freeboard or bulkhead deck) when fitted in place	Hose, *see* Note 9	
Weathertight hatch covers and closing appliances	Hose	
Fore peak not used as tank	Hose, *see* Note 2	
Shell doors when fitted in place	Hose, *see* Note 13	
Chain locker	Structural	The greater of: • head of water up to the top of the spurling pipe • head of water up to the exposed weather deck
Independent tanks	Structural	Head of water up to the top of overflow, but not less than 0,9 m
Ballast ducts	Structural	Ballast pump maximum pressure
Pump-rooms, shell plating in way	Visual examination	*See* Note 7
Pump-room bulkheads not forming tank boundaries	Leak	*See* 8.3.4 and Note 8
After peak not used as tank	Leak	*See* 8.3.4

~~**Table 1.8.1 Testing requirements** *(conclusion)*~~

NOTES

1. Leak or hydropneumatic testing may be accepted, provided that at least one tank of each of structural configuration is structurally tested, to be selected in connection with the approval of the design. For chemical tankers, all cargo tank boundaries are to be structurally tested from at least one side, *see also* 8.3.8.
2. When hose testing cannot be performed without damaging possible outfittings already installed, it may be replaced by a careful visual inspection of all the crossings and welded joints. Where necessary, dye penetrant test or ultrasonic leak test may be required.
3. Testing of the aft peak is to be carried out after the sterntube has been fitted.
4. The highest point of the tank is generally to exclude hatchways. In holds for liquid cargo or ballast with large hatch openings, the highest point of the tank is to be taken to the top of the hatch.
5. If leak or hydropneumatic testing is carried out, arrangements are to be made to ensure that no pressure in excess of 0,30 bar (0,30 kgf/cm^2) can be applied.
6. A minimum of every second hatch cover is to be tested.
7. To be carefully examined with the vessel afloat.
8. Alternative methods of testing will be considered.
9. *See also* SOLAS Reg. II-1/16. Where the door has had the full hydrostatic test before installation, the hose test may be replaced by careful visual examination after full operational tests.
10. Pressure/vacuum relief valve head to be taken as $12{,}0p_V$ m above the top of the tanks, where p_V is the maximum positive pressure/vacuum relief valve setting, in bar (kgf/cm^2).
11. Prior to performing the test, small access hatches having a smaller coaming height than the main hatch are to be fully closed.
12. For those designs unable to apply the tank test requirements up to the top of the hatch coaming, the applied head is to be as close to the hatch coaming top level as is reasonably practical.
13. For shell doors providing watertight closure, watertightness is to be demonstrated through prototype testing before installation. Testing procedure to be agreed with LR.

~~**Table 1.8.2 Required test heads where a trunk is**~~ **fitted**

Depth of midship tank to top of trunk centre where fitted metres	Test heads	
	Above trunk metres	Above deck metres
> 5,0	1,50	2,45
> 4,25 ≤ 5,0	1,20	2,15
> 3,75 ≤ 4,25	0,90	1,85
> 3,0 ≤ 3,75	0,60	1,50
≤ 3,0	0,60	1,20

8.3 Trial trip and operational tests

8.3.1 The items listed in Table 1.8.1 are to be tested on completion of the installation or at sea trials.

Table ~~1.8.3~~ 1.8.1 Trial trip and operational tests

Item	Requirement
Sliding watertight doors	To be operated under working conditions
Windlass	An anchoring test is to be carried out in the presence of the Surveyor The test should demonstrate that the windlass with brakes, etc., functions satisfactorily, and that the power to raise anchor can be developed and satisfies the Rule requirements For Rule requirements, *see* Ch 13,7
Steering gear, main and auxiliary	To be tested under working conditions, to the satisfaction of the Surveyors,to demonstrate that the Rule requirements are met For Rule requirements, *see* Pt 5, Ch 19
Bilge suctions in holds, and hand pumps in peak spaces	To be tested under working conditions to the satisfaction of the Surveyors

■ *Section 9*

Procedures for testing tanks and tight boundaries

9.1 General

9.1.1 The test procedures detailed in this Section are to be used to confirm the watertightness of tanks and watertight boundaries, the structural adequacy of tanks and weather-tightness of structures.

9.2 Application

9.2.1 The testing requirements for gravity tanks, defined as tanks subject to a vapour pressure not greater than 70 kN/m^2, and other boundaries required to be watertight or weathertight, are to be tested in accordance with this Section. Tests are to be carried out in the presence of a Surveyor at a stage sufficiently close to completion such that the strength and tightness are not subsequently impaired and prior to any sealing and cement work being applied over joints.

9.2.2 The testing of cargo containment systems of liquefied gas carriers are to be in accordance with the requirements of Ch 4,10 of the *Rules and Regulations for the Classification of Ships for the Carriage of Liquefied Gases in Bulk*.

9.2.3 The testing of structures not listed in this Section are to be specially considered.

Table 1.9.1 **Testing requirements** (*see continuation*)

Item to be tested	Testing procedure	Test requirement
Double bottom tanks, *see* Note 1	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water 2,4 m above top of tank, *see* Note 2 • head of water up to bulkhead deck
Combined double bottom and hopper side tanks	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water representing the maximum pressure experienced in service
Double bottom voids, *see* Note 3	Leak	
Double side tanks	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water 2,4 m above top of tank, *see* Note 2 • head of water up to bulkhead deck
Combined double bottom, lower hopper and topside tanks	Leak and structural	
Topside tanks	Leak and structural	
Double side voids	Leak	
Deep tanks (other than those listed elsewhere)	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water 2,4 m above top of tank, *see* Note 2
Cargo oil tanks, and fuel oil bunkers	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water 2,4 m above top of tank, *see* Note 2 • head of water up to top of tank, *see* Note 2, plus setting of fitted pressure-relief valve
Scupper and discharge pipes in way of tanks	Leak and structural	
Ballast hold of bulk carriers	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water up to the top of cargo hatch coaming
Peak tanks, *see* Note 4	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water 2,4 m above top of tank, *see* Note 2
Fore peak voids	Leak	
Aft peak voids, *see* Note 4	Leak	
Cofferdams	Leak	
Watertight bulkheads	Leak	*See* Note 5
Superstructure end bulkhead	Leak	
Watertight doors below freeboard or bulkhead deck	Leak	*See* Notes 5 and 6
Double plate rudder blade	Leak	
Shaft tunnel clear of deep tanks	Leak	*See* Note 5
Shell doors when fitted in place	Leak	*See* Notes 5 and 7
Weathertight hatch covers and closing appliances	Leak	*See* Note 5
Steel hatch covers fitted to the cargo oil tanks and cargo holds of ships used for the alternate carriage of oil cargo and dry bulk cargo	Leak	*See* Note 5
Chain locker	Leak and structural	Head of water up to top of chain pipe
Independent tanks, and edible liquid tanks	Leak and structural	The greater of: • head of water up to the top of the overflow • head of water 0,9 m above top of tank, *see* Note 2
Ballast ducts	Leak and structural	The greater of: • ballast pump maximum pressure • setting of pressure-relief valve
Chemical tanker cargo tanks	Leak and structural	The greater of: • head of water 2,4 m above top of tank, *see* Note 2 • head of water up to top of tank, *see* Note 2, plus setting of fitted pressure-relief valve

Table 1.9.1 Testing requirements (*conclusion*)

NOTES
1. Including tanks arranged in accordance with the provisions of SOLAS Reg. II-1/9/4.
2. Top of tank is the deck forming the top of the tank, excluding any hatchways. In holds for liquid cargo or ballast with large hatch openings, the top of tank is to be taken to the top of the hatch.
3. Including duct keels and dry compartments arranged in accordance with the provisions of SOLAS Reg. II-1/9.4.
4. Testing of the aft peak is to be carried out after the sterntube has been fitted.
5. A hose test will be considered, *see* 9.5.2 and 9.6.3.
6. Watertight doors not confirmed watertight by a prototype test are to be subject to a hydrostatic test, *see* SOLAS Reg. II-1/16.2.
7. For shell doors providing watertight closure, watertightness is to be demonstrated through prototype testing before installation. The testing procedure is to be agreed with LR prior to testing.
8. Other testing methods listed in 9.6.7 and 9.6.8 may be considered, subject to adequacy of such testing methods being verified, *see* SOLAS Reg. II-1/11.1.

9.3 Test types

9.3.1 The types of test specified in this Section are:

(a) **Structural test**: which is to be conducted to verify the tightness and structural adequacy of the construction of tanks. This may be a hydrostatic test or, where the situation warrants, a hydropneumatic test.

(b) **Leak test**: which is to be used to verify the tightness of a boundary. Unless a specific test is indicated, this may be a hydrostatic, hydropneumatic test, air or other medium test.

9.4 Structural test procedures

9.4.1 Where a structural test is specified in Table 1.9.1, unless specified otherwise, a hydrostatic test is to be carried out in accordance with 9.6.1. Where practical limitations prevent a hydrostatic test being carried out, a hydropneumatic test in accordance with 9.6.2 is to be conducted.

9.4.2 A hydrostatic test may be carried out afloat to confirm the structural adequacy of tanks, provided a leak test is carried out beforehand and the results are confirmed as satisfactory.

9.4.3 For tanks of the same structural design, configuration and the same general workmanship, as determined by the attending Surveyor, a structural test may be carried out on only one tank, provided all subsequent tanks are tested for leaks by an air test. The relaxation to accept leak testing using an air test instead of a structural test does not apply to cargo space boundaries in tankers and combination carriers and tanks for segregated cargoes or pollutants.

9.4.4 Where the structural adequacy of a tank has been verified by structural testing on a previous vessel in a series, tanks of structural similarity on subsequent vessels within that series may be exempt from such testing, provided that the watertightness of all exempt tanks is verified by leak tests and thorough inspection. For sister ships built several years after the last ship in a series, such exemptions may be reconsidered. However, structural testing is to be carried out for at least one tank on each vessel in the series in order to verify structural fabrication adequacy. The relaxation to accept leak testing and thorough inspections instead of a structural test on subsequent vessels in a series does not apply to cargo space boundaries in tankers and combination carriers and tanks for segregated cargoes or pollutants.

9.4.5 Tanks exempted from structural testing in 9.4.3 and 9.4.4 may require structural testing if found necessary after the structural testing of the first tank.

9.4.6 For watertight boundaries of spaces other than tanks, excluding chain lockers, structural testing may be exempted, provided that the watertightness in all boundaries of exempted spaces are verified by leak tests and thorough inspection.

9.4.7 Consideration is to be given to the selection of tanks to be structurally tested. Selected tanks should be chosen so that all representative structural members are tested for the expected tension and compression.

9.5 Leak test procedures

9.5.1 Where a leak test is specified in Table 1.9.1, unless specified otherwise, a tank air test, compressed air fillet weld test, or vacuum box test is to be carried out in accordance with the applicable requirements of 9.6.4 to 9.6.6. A hydrostatic or hydropneumatic test conducted in accordance with the applicable requirements of 9.6.1 and 9.6.2 will be accepted as a leak test.

9.5.2 A hose test will be accepted as means of verifying the tightness of joints only in specific locations, identified in Table 1.9.1.

9.5.3 Air tests of joints may be conducted at any stage during construction provided that all work that might affect the tightness of the joint is completed before the test is carried out.

9.6 Definitions and details of tests

9.6.1 **Hydrostatic test** is a test conducted by filling a space with a liquid to a specified head. Unless another liquid is approved, the hydrostatic test is to consist of filling a space with either fresh or sea-water, whichever is appropriate for the space being tested, to the level specified in Table 1.9.1. For tanks intended to carry cargoes of a higher density than the test liquid, the head of the liquid is to be specially considered.

9.6.2 **Hydropneumatic test** is a combination of a hydrostatic test and a tank air test, consisting of partially filling a tank with water and conducting a tank air test on the unfilled portion of the tank. A hydropneumatic test, where approved, is to be such that the test condition in conjunction with the approved liquid level and air pressure will simulate the actual loading as far as practicable. The requirements for tank air testing shown in 9.6.4 are to be adhered to.

9.6.3 **Hose test** is a test used to verify the tightness of joints with a jet of water. It is to be carried out with the pressure in the hose nozzle maintained at not less than 2,0 bar during the test. The hose nozzle is to have a minimum inside diameter of 12 mm and is to be situated no further than 1,5 m from the joint. Where a hose test is not practical because of possible damage to machinery, electrical equipment insulation or outfitting items, it may be replaced by a careful visual examination of welded connections, supported by an ultrasonic or penetration leak test, or an equivalent, *see* SOLAS Reg. II-1/11.1.

9.6.4 **Tank air test** is to be used to verify the tightness of a compartment by means of an air pressure differential and leak detection solution. An efficient indicating solution (e.g., soapy water) is to be applied to the weld or penetration being tested and is to be examined whilst an air pressure differential of not less than 0,15 bar is applied by pumping air into the compartment. It is recommended that the air pressure in the tank be raised to and maintained at 0,20 bar above atmospheric pressure for one hour, with a minimum number of personnel in the vicinity of the tank, before being lowered to 0,15 bar above atmospheric pressure. Arrangements are to be made to ensure that any increase in air pressure does not exceed 0,30 bar. A U-tube with a height sufficient to hold a head of water corresponding to the required test pressure is to be used for verification and to avoid overpressure. The cross-sectional area of the U-tube is not to be less than that of the pipe supplying air to the tank. In addition, the test pressure is to be verified by means of a pressure gauge, or alternative equivalent system. All boundary welds, erection joints and penetrations including pipe connections in the compartment are to be examined.

9.6.5 **Compressed air fillet weld test**. This test consists of compressed air being injected into one end of a fillet welded joint and the pressure verified at the other end of the joint by a pressure gauge on the opposite side. Pressure gauges are to be arranged so that an air pressure of at least 0,15 bar above atmospheric pressure can be verified at each end of all passages within the portion being tested. A leak indicator solution is to be applied and the weld line examined for leaks. A compressed air test may be carried out for partial penetration welds where the root face is greater than 6 mm.

9.6.6 **Vacuum box test** is a test used to verify the tightness of joints by means of a localised air pressure differential and indicator solution. The test is to be conducted with the use of a box with air connections, gauges and an inspection window that is to be placed over the joint being tested with a leak indicator solution applied. Air within the box is to be removed by an ejector to create a reduction in pressure. The pressure inside the box during the test is to be maintained between 0,20 to 0,26 bar.

9.6.7 **Ultrasonic test** may be used where a hose test is not practical to verify the tightness of a boundary, *see* 9.6.3. An arrangement of ultrasonic echo transmitters is to be placed inside a compartment and a receiver outside. The receiver is to be used to detect any leaks in the compartment.

9.6.8 **Penetration test** may be used where a hose test is not practical to assess butt welds, *see* 9.6.3, by applying a low surface tension liquid to one side of a compartment boundary. When no liquid is detected on the opposite side of the boundary after expiration of a definite time, the verification of tightness of the compartment's boundary may be assumed.

9.6.9 Other methods of testing may be considered and are to be agreed by LR prior to commencement of testing.

9.7 Application of coating

9.7.1 A final coating may be applied over automatic butt welds before the completion of a leak test, provided that careful visual inspections show continuous uniform weld profile shape, free from repairs, and the results of selected NDE testing show no significant defects. For all other joints, the final coating is to be applied after the completion of a leak test. The Surveyor reserves the right to require a leak test prior to the application of the final coating over automatic erection butt welds.

9.7.2 Any temporary coating which may conceal defects or leaks is to be applied at a time as specified for the final coating, *see* 9.7.1. This requirement does not apply to shop primer.

9.8 Safe access to joints

9.8.1 For leak tests, safe access to all joints under examination is to be provided.

Part 4, Chapter 2

Ferries, Roll on-Roll off Ships and Passenger Ships

CORRIGENDUM

■ *Section 8*
Bow doors and inner doors

8.6 Design of securing and supporting devices

Table 2.8.1 Combination of external loads

Bow door type	Combination of external loads	
	Case 1 (Head seas)	Case 2 (Quartering seas)
Visor doors, *see* Notes 1 and 2	P_x and P_z, *see* Note 3	0,7P_y acting on each side separately, together with 0,7P_x and 0,7P_z
Side opening, *see* Notes 1 and 2	P_x, P_y and P_z acting on both doors, *see* Note 3	0,7P_x and 0,7P_z acting on both doors and 0,7P_y acting on each door separately
NOTES 1. P_x, P_y and P_z are defined in ~~8.5.15~~ 8.6.1. These forces are to be applied at the centroid of the projected areas. 2. The self-weight of the door is to be included in the combination of external loads. 3. The Case 1 forces are generally to give rise to a zero moment about the transverse axis through the centroid of area A_V, *see* Fig. 2.8.1.		

Part 5, Chapter 2

Oil Engines

CORRIGENDA

■ *Section 17*
Type testing – General

17.1 Engines

17.1.3 Wherever practical, type tests are to be conducted with the engine control systems operational in the approved configuration, *see* ~~1.1.4 and 1.1.5~~ 1.1 and 4.3.2. Configuration management documents are to be reviewed at testing for validity and referenced in the type test report.

17.2 Mass produced engines

17.2.3 The type tests are to be conducted with the engine control systems operational in the approved configuration, *see* ~~1.1.4 and 1.1.5~~ 1.1 and 4.3.2. Configuration management documents are to be reviewed at testing for validity and referenced in the type test report.

Cross-references

Section numbering in brackets reflects any Section renumbering necessitated by any of the Notices that update the current version of the Rules for Ships.

Part 3, Chapter 11

9.2.1	Ch 1,8.3 *now reads* *see* Table 1.9.1 in Chapter 1
4.2.30	Table 1.8.1 in Chapter 1 *now reads* Table 1.9.1 in Chapter 1
9.2.8	Table 1.8.1 in Chapter 1 *now reads* Table 1.9.1 in Chapter 1

Part 3, Chapter 13

2.6.7	Table 1.8.1 in Chapter 1 *now reads* Table 1.9.1 in Chapter 1
3.2.7	Table 1.8.1 in Chapter 1 *now reads* Table 1.9.1 in Chapter 1

Part 7, Chapter 5

3.1.7	Table 1.8.1 in Chapter 1 *now reads* Table 1.9.1 in Chapter 1

Part 7, Chapter 10

6.1.1	Pt 3, Ch 1,8.3.4 *now reads* Pt 3, Ch 1,9.6.4

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